

USPTO Customer No. 25280

Case 5752

REMARKSRejection under 35 USC 103

Claims 21-32 are rejected under 35 USC 103(a) as being unpatentable over US Patent 5,521,273 to YILGÖR et al. in view of US Patent 5,981,407 to MATSUMOTO et al.

The rejection contained in the Office Action is essentially as provided below:

YILGÖR teaches a process for coating a fabric with two different urethane polymeric compositions which, together, form a composite coating that reads on Applicant's claimed "combination of a first urethane polymer and a second urethane polymer." The fabric may be woven, nonwoven, or knit. The coating may further contain flame retardants. Each of the urethane compositions have an elongation at break of 500-600% or greater. The teaching renders obvious Applicant's claimed urethane "having an elongation at break of less than 500%", since a *prima facie* case of obviousness exists where the claimed ranges and the prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. Here, it is the Examiner's position that an elongation at break of 499.9% is both less than 500% and close enough to 500% that one of ordinary skill in the art would have expected them to have the same properties. YILGÖR fails to teach that the ratio of the first urethane polymer to the second urethane polymer is between 20:1 and about 5:1 on a solids basis.

MATSUMOTO et al. teach a flame retardant fabric comprising a halogen-containing polyester fiber. The halogen-containing fiber may comprise a phosphorous compound, such as tris(2,3-dichloropropyl) phosphate.

Since YILGÖR and MATSUMOTO are from the same field of endeavor (i.e., flame retardant fabrics), the purpose disclosed by MATSUMOTO would have been recognized in the pertinent art of YILGOR.

It would have been obvious to have made the article of YILGÖR with the flame retardant cloth of MATSUMOTO, motivated by the desire to make the article flame retardant.

USPTO Customer No. 25280

Case 5752

The Office Action also suggests that the clarity of Applicant's polymeric coating, the add-on levels of the coating, the ability of the coating to pass the NFPA Small Scale 701 Vertical Flame Test (1989), and the hand of the coated textile are also obvious, based on the teachings of YILGÖR and MATSUMOTO.

The YILGÖR reference teaches a water vapor-permeable, waterproof two layer coating system having a first breathable polyurethane adhesive and a second breathable polyurethaneurea top coat (see, for example, Col. 5, line 66 – Col. 6, line 2). Both the adhesive layer and the top coat material are described as having an elongation at break of "better than 500-600%" (Col. 6, lines 26-27). In fact, TABLE 1 of the reference indicates that each of the Example polymer layers has an elongation at break of greater than 725%. By using only such high elongation polymers, the reference fails to provide any teaching of a component that will provide firmness to the coating, a function provided by Applicant's low elongation polymer (see page 3, lines 21-22).

In contrast, Applicant's disclosure teaches the combination of two different urethanes to form a single layer of polymer finish on a flame retardant fabric. Specifically contemplated is the combination of a high elongation polyurethane and a low elongation polyurethane. The coating combination forms a single layer of polymers on the fabric surface.

Applicant respectfully reiterates that the YILGÖR reference entirely fails to teach or suggest the use of urethane polymers in a single layer, teaching only the use of multiple polymer layers. Applicant's single layer is formed of polymers of differing elongation percentages, which when combined provide the desired properties of clarity and mark-off reduction. Because the YILGÖR reference fails to teach or suggest the inclusion of a polymer having an elongation less than 500% as claimed by Applicant, the reference then inherently fails to teach the properties provided by Applicant's materials. Failing to teach such materials (specifically, the use of two

USPTO Customer No. 25280

Case 5752

different urethane polymers in a single coating layer), the YILGÖR reference does not provide a product that would render obvious the fabric product claimed by Applicant.

Applicant concurs that the YILGÖR reference is silent as to the use of flame retardant fabrics. For that teaching, the Office Action turns to the MATSUMOTO reference.

From Applicant's understanding, MATSUMOTO is directed to a flame retardant fabric made from three different fiber types: a halogen-containing fiber, a polyvinyl alcohol fiber, and a common polyester fiber. The fabric has excellent heat resistance and is suitable for transfer printing. The halogen-containing fiber provides flame retardance to the fabric. MATSUMOTO does not teach or suggest the use of polymer coatings in conjunction with their flame retardant fabric.

The Office suggests that the YILGÖR reference is directed to the same field of endeavor as the MATSUMOTO reference, that being to the area of flame retardant fabrics. Applicant respectfully disagrees. The only mentions of flame retardance in the YILGÖR reference are as part of extensive lists (Col. 4, line 64; Col. 5, lines 14-15; and Col. 6, line 10) of possible additives to the polymer coating layers described and claimed by YILGÖR. YILGÖR does not teach that their polymer coating layers specifically are flame retardant, but that they are useful in improving "on the art of water vapor-permeable, waterproof textile materials." Had flame retardance been a significant component of the YILGÖR invention, Applicant submits that flame retardant additives would have been included in the Examples and, possibly, the Claims. Therefore, Applicant rejects the premise that YILGÖR and MATSUMOTO are from the same field of endeavor.

USPTO Customer No. 25280

Case 5752

MPEP 2143.01 states, in part: "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art."

Applicant submits that the combination of YILGÖR and MATSUMOTO fails to satisfy this standard. Because the references are directed to different fields of endeavor, there is no logical reason to make the combination suggested by the Office Action. YILGÖR teaches a two-layer coating that may include flame retardant additives. MATSUMOTO teaches a fabric that is flame retardant due to chosen fiber types and which does not include the use of a polymer coating. Accordingly, there is no teaching, suggestion, or motivation to combine the teachings of these references.

Furthermore, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) Nothing in the MATSUMOTO reference suggests that a polymer coating (for example, as taught by YILGÖR) would further enhance the properties of the fabric. YILGÖR, similarly, does not provide any specific teaching of the desirability of modifying a flame retardant fabric (such as that taught by MATSUMOTO) with a polymer coating.

MPEP 2143.03 states: "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)."

USPTO Customer No. 25280

Case 5752

Even if the YILGÖR and MATSUMOTO references were combined as has been suggested, they fail to provide a teaching of all of the elements of Applicant's claims. Specifically, neither reference provides a teaching of a polymer finish comprised of two different urethane polymers, one of which has a high elongation and the other of which has a low elongation. Because the references do not teach urethane polymers of these types in combination with one another, the references also fail to teach or suggest the appropriate ratio of the high elongation urethane to the low elongation urethane.

Because there is no motivation in the references themselves to make the proposed modifications, and because the references, when combined, fail to teach all of the limitations of Applicant's claims, Applicant respectfully submits that no *prima facie* case of obviousness has been established.

For this reason, Applicant respectfully submits that the rejection is improper and requests that it be withdrawn.

Double Patenting Rejection

Claims 21-32 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting, as being unpatentable over Claim 20 of co-pending Application No. 10/810,931. Although the conflicting claims are not identical, the Office believes that they are not patentably distinct from one another, because both are directed to a polymeric finish comprising two urethane polymers.

Applicant is submitting herewith a Terminal Disclaimer over a Co-Pending Application. Applicant believes such submission to be sufficient to obviate this rejection and respectfully requests the withdrawal thereof.

USPTO Customer No. 25280

Case 5752

CONCLUSION

In view of the previous remarks, Applicants respectfully submit that this application is now in condition for allowance. Entry of this Amendment and issuance of a Formal Notice of Allowance is courteously solicited.

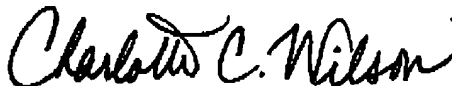
Should any issues remain after consideration of these Remarks, the Examiner is invited and encouraged to telephone the undersigned in the hope that any such issue may be resolved promptly and satisfactorily.

This response is accompanied by a Petition for Extension of Time (two months). In the event that there are additional fees associated with the submission of these papers (including extension of time fees), authorization is hereby provided to withdraw such fees from Deposit Account No. 04-0500.

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Respectfully submitted,



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